

CHAPTER 1

Biology: Exploring Life

OBJECTIVES

The Scope of Biology

- 1.1 Define the levels of biological organization from molecules to the biosphere, noting the relationship each level has to the others.
- 1.2 Compare the flow of chemical nutrients and the flow of energy in an ecosystem.
- 1.3 Explain how cells are the structural and functional units of life. Compare prokaryotic and eukaryotic cells.

Evolution, Unity, and Diversity

- 1.4 Describe seven properties that are common to all life.
- 1.5 Compare the three domains of life. Distinguish between the three multicellular kingdoms within Eukarya.
- 1.6 Describe the process and products of natural selection.

The Process of Science

- 1.7 Describe the goals and limits of scientific investigations. Compare discovery science and hypothesis-based science.
- 1.7 Define a hypothesis, and compare inductive and deductive reasoning.
- 1.8 Explain how deductive reasoning is part of hypothesis-based science.
- 1.8 Define a control, and describe an example.